DOCUMENT RESUME

ED 179 713 CE 023 088

AUTHOR Conti, Gary J.
TITLE Principles of Adult Learning Scale.
INSTITUTION Spoon River Coll., Canton, Ill.
PUB DATE 4 Apr 79
NOTE 21p.; Paper presented at the annual Adult Education Research Conference (20th, Ann Arbor, Michigan, April 4, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Adult Educators; Adult Learning; *Behavior Rating Scales; Classroom Observation Techniques; Educational Assessment; Educational Needs; Educational Principles; Effective Teaching; Learning Modalities; Measurement Instruments; *Participant Involvement; Self Evaluation; *Student Teacher Relationship; Teacher Attitudes; Teacher Behavior; *Teacher Evaluation; Test Construction; Test Reliability; Test Validity
IDENTIFIERS Collaborative Teaching Learning Mode; Flanders System of Interaction Analysis; *Principles of Adult Learning Scale

ABSTRACT

The Principles of Adult Learning Scale (PALS) was developed and validated for measuring congruency between adult education practitioners' actual observable classroom behavior and their expressed belief in the collaborative teaching-learning mode. This model is a learner-centered instruction method in which learner and practitioner share authority for curriculum formation. A modified Likert scale is used to record responses to items which are based on the body of theory and knowledge advanced in the literature. Field research aimed to establish validity and reliability of PALS items involved the test-retest method, assessment of construct validity by a jury of adult education professors, content validity testing in public school programs, and confirmation of criterion validity by identifying the initiating and responsive actions in the items in PALS and then by comparing scores in PALS to scores on the Flanders Interaction Analysis Categories. Variables of social desirability and item interpretation congruency were also examined. PALS has potential empirical and field use. It could serve as a measurement device to segregate experimental and control groups in research studies on learning efficiency in specific teaching-learning modes. Practitioners could find uses for PALS since it consolidates many learning principles advocated in the literature. (PALS and scoring information are appended.) (CP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED179713

PRINCIPLES OF ADULT LEARNING SCALE

A PAPER PRESENTED AT THE TWENTIETH ANNUAL
ADULT EDUCATION RESEARCH CONFERENCE

BY

GARY J. CONTI

ANN ARBOR, MICHIGAN

APRIL 4, 1979

CE023088

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gary J. Conti

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Introduction

A significant portion of the adult education literature endorses the collaborative teaching-learning mode as an appropriate method for assisting adults in the learning process. Despite the extensive attention given to this mode, there are few research studies evaluating the effectiveness of the learning principles of the collaborative mode. Such empirical studies have been hindered in the past by the lack of an adequate instrument to measure the degree of practitioner support of the collaborative mode.

The major purpose of the present study was to develop and validate an instrument capable of measuring the degree to which adult education practitioners accept and adhere to the adult education learning principles that are congruent with the collaborative teaching-learning mode. The collaborative mode was defined as a learner-centered method of instruction in which authority for curriculum formation is shared by the learner and the practitioner. The items for the instrument were based on adult education principles that are characteristic and supportive of the collaborative teaching-learning mode and which were culled from the literature in the field.

Much has been written in the past two decades about the growing accumulation in the field of adult education of a unique body of theory and knowledge. Bergevin (1967) and Jensen, Liveright, and Hallenbeck (1964) concur that an appropriate body of adult education knowledge has gradually been assembled. Houle (1963) and Knowles (1970) point out that adult education has become increasingly sophisticated and specialized. While agreeing with these observations, Farmer (1974) adds that in order for adult education to advance in its professionalization, this accumulated body of knowledge must be capable of

utilization by practitioners in their work.

A large volume of this accumulated body of theory and knowledge subjectively advocates the collaborative mode as generally the most appropriate method for facilitating adult learning. In order to test this belief, it was assumed that this method must be identified by an instrument substantiated by actual in-class observations. Since the collaborative mode is a learner-centered approach which strives to encourage the learner to seek the maximum amount of trust, self-direction, and responsibility, it is similar to the actions which Flanders (1970) describes as encouraging student initiating actions. Therefore, the items developed for the instrument were linked theoretically to the Flanders Interaction Analysis Categories (FIAC) as an external criterion for systematically assessing practitioner behavior.

Therefore, although adult education is in the process of developing its own distinct body of theory and knowledge, the degree of its acceptance by practitioners and its value, validity, and reliability have not been tested. As a prerequisite to such studies, this research led to the development of an instrument for measuring the degree of practitioner support of the learning principles related to the collaborative teaching-learning mode. Observations using the FIAC were used to measure the congruency between the practitioners' expressed beliefs and their actual, observable classroom behavior.

Resume of Related Literature

Although there are various modes of instruction (Blaney, 1974), a significantly large portion of the literature in the field of adult education

generally supports the collaborative mode as effective and appropriate for teaching adults. The roots for this mode run deep in adult education's history and continue to prosper today.

Support for the underlying principles of the collaborative mode can be traced through the writings of several prominent adult educators. Lindeman (1961) linked Dewey's ideas for active learners to adult education and stressed learner participation by building on past experiences. Beregvin (1967) discussed the democratic nature of adult education, and he and Kidd (1976) highlighted the importance of learner-centered education. Houle (1972) defined education as a cooperative art and developed a comprehensive curriculum model for its implementation. Knowles (1970) discussed the need for adult learners taking the responsibility for their own learning through self-directed inquiry. Knox (1976) has focused on the process of facilitating adult learning and on the process of evaluating continuing education activities. Freire (1970) focused on problem-posing educational techniques to assist the oppressed in raising their level of consciousness. While each of these educators mix the educational ingredients somewhat differently, all combined them in formulas that articulate a comprehensive philosophy supporting the collaborative mode. Their writings can therefore be culled to compile a pool of adult learning principles for the collaborative mode.

Instrument Construction

The items in the instrument, the Principles of Adult Learning Scale (PALS), are based upon the body of theory and knowledge which is advanced in the literature by prominent adult educators who support the collaborative teaching-learning mode. In order to form items for the instrument, these general and theoretical principles from the literature were reworded in

behavioral terms compatible with realistic experiences of practitioners. One-half of the items were stated positively so that their action was congruent with the learning principles of the collaborative mode. The actions of the other half were antithetical to the collaborative mode. The items were randomly arranged within the instrument.

A modified five point Likert scale was used as a continuum for recording practitioner responses. Those taking the instrument were asked to respond to the frequency with which they practice the actions described in the items. Responses which were congruent with the collaborative mode were assigned a high value while those which were antithetical were assigned a low value.

Methodology

The field research of this study consisted of establishing the validity and reliability of the items in PALS. Although it is customary to first test for reliability, this study addressed validity first in order to elicit help in better sophisticating the items and to increase the discriminating power of the items. The research design controlled for construct, content, and criterion-related validity, reliability, social desirability, and congruence of interpretation of the instrument's items.

The construct validity of the items was established by the testimony of juries of adult educators. The first jury consisted of three adult education professors[1] from Northern Illinois University who analyzed the items, commented on the validity of the constructs in the items, and suggested improvements for various items. The second jury consisted of 10 professors[2] with a high degree of visibility in the field of adult education, with geographic dispersion

---

[1] Drs. P. Cunningham, J. Niemi, and R. Smith

[2] Drs. G. Aker, G. Darkenwald, D. Dutton, M. J. Even, S. Grabowski, M. Knowles, A. Knox, J. Peters, K. Rockhill, and D. Seaman.

throughout the country, and with philosophical heterogeneity. These professors were asked to testify to the validity of the construct in each item.

The content validity of PALS was established by field-tests with adult basic education practitioners in full-time public school programs in Illinois. The field-testing was divided into two phases. Phase 1 consisted of three field-tests to identify items that discriminated between supporters and non-supporters of the collaborative mode. After Phase 1 had produced an instrument with potentially discriminating items, Phase 2 was conducted. This phase consisted of field-testing the instrument with 57 practitioners in six programs. Two programs were in a large metropolitan area; two were in medium size cities; and two were in small, rural communities. The scores from the practitioners in all six programs were pooled and analyzed. Since the items had been drawn from the literature supportive of the collaborative mode, an individual's total score was used as the criterion measure of his/her support of the collaborative mode. It was assumed that items which were valid and representative samples of this mode would contribute significantly to the total score and would correlate positively with this criterion measure of total score. Therefore, content validity was determined by Pearson correlations which measured the relationship between each individual item and the total score for each participant.

Criterion-related validity was established by comparing the scores on PALS of those who scored two standard deviations either above or below the mean in the Phase 2 field-testing to their scores on the Flanders Interaction Analysis Categories (FIAC). The FIAC scores were determined through actual classroom observations. The FIAC was selected as the external criterion because it is a validated system for measuring initiating and responsive classroom actions and because the actions described in Flanders' definition of initiating are highly

congruent with the characteristics of the collaborative mode. To link these instruments, the national jury members were asked to judge the action in each item as either initiating or responsive. The scores derived from actual observations were used to evaluate PALS concurrent validity and to assess the degree to which accepting a mode and practicing it are congruent.

The reliability of PALS was established by the test-retest method. This measure of the stability of an examinee's performance on the instrument was conducted after Phase 2 of the field-testing with a group of 23 adult basic education practitioners in Chicago. The same form of the instrument was re-administered to these practitioners after a seven day interval, and their scores were compared by means of a Pearson correlation.

The research design also controlled for social desirability and congruency of item interpretation by practitioners. A social desirability score was calculated for each item by having those who scored two standard deviations either above or below the mean in Phase 2 of the field-testing judge the desirability in other people of the trait described in each item. A nine point scale was used (Edwards, 1957), and mean scores were used to calculate each item's social desirability value. During the same visitation, these practitioners were interviewed to ascertain their interpretations of 10 randomly selected items from PALS.

Findings

Interpretative and statistical data were gathered which established the reliability and validity of PALS. The construct validity of PALS was established by the testimony of two juries. Each jury reviewed the items, made suggestions for improving the items, and judged the type of action inherent in each item. The input from the local jury was used to revise items, and the

testimony of the natural jurors was used to compute the statistical values for the construct validity of PALS. At least 78% of the national jurors ruled that each item's concept was congruent with adult education learning principles associated with the collaborative mode. Likewise, the majority of the national jurors concluded that the positive items in PALS were associated with initiating actions and the negative items with responsive actions. In addition, the national jurors suggested minor re-wordings to strengthen the validity of weak items.

The content validity of PALS was established by field-testing. In Phase 1, 43 practitioners at three different sites were tested. Data from item analyses and information from group discussions were used to improve the instrument after each testing. Information gathered during this phase of the field-testing was used to greatly refine the instrument.

In Phase 2, the same form of the instrument was administered to 57 practitioners in diversely different full-time programs. The scores from these field-tests were used to assess the content validity of each item. The Pearson correlations calculated to evaluate the relationship between each individual item and the criterion measure of total score indicated that 25 items were significant at the .001 level, eight at the .01 level, seven at the .05 level, and four at the .10 level. Of these 44 acceptable items, 24 were positive, and 20 were negative.

Criterion-related validity was confirmed by comparing the scores on PALS to the Flanders Interaction Analysis Categories (FIAC). Both instruments measure initiating and responsive actions. Eighty percent of the available group that had scored two standard deviations either above or below the mean on PALS were observed, and their classroom behaviors were evaluated by means

of the FIAC. Pearson correlations between PALS and each of the three possible FIAC ratio scores of teacher response ratio (TRR), teacher question ratio (TQR), and pupil initiation ratio (PIR) showed a positive correlation of .85 (TRR), .79 (TQR), and .82 (PIR). These high correlations statistically confirmed that PALS consistently measures initiating and responsive constructs and that PALS is capable of consistently differentiating among those who have divergent views concerning these constructs.

The FIAC ratio scores also confirmed the existence of a high degree of congruency between professing to support a teaching-learning mode on PALS and actually practicing behaviors characteristic of that mode in the classroom. Chi square scores for the three FIAC ratio scores for the group which scored two standard deviations above the mean on PALS were significant at the .001 level. Two of the chi square scores for the low scoring group were significant at the .05 level. The teacher response ratio, however, was not statistically significant. This ratio is an index of the teacher's tendency to react to the ideas and feelings of the student, and it is possible that this ratio was inflated for both groups by the large amount of individualized learning practiced in the observed adult education classrooms.

The reliability of PALS as a stable measure for measuring the degree of an adult education practitioner's support of the collaborative mode was established by the test-retest method using the final 44 item form of PALS. The Pearson correlation for the 23 practitioners in the sample group yielded a reliability coefficient of .92.

A social desirability score was calculated for each item in PALS. Items with a rating of 2.0 or less were considered to be non-neutral and judged as socially desirable. Nine items were rated as socially desirable. Since eight of the items had high content validity values and since the social desirability

literature lacks definitive research findings, these items were retained in the instrument with the caution to potential users to consider the implications of these eight ratings before implementing the instrument.

Individual and small group interviews were conducted with the practitioners who were observed to determine the congruency with which the items were interpreted. By means of open ended questions, the practitioners were asked to express their interpretation of the item's content and to clarify terms or concepts which they introduced into the discussion. As a result of these interviews, the researcher concluded that each of the participants had interpreted each of the items in the intended manner

Implications

This study produced a reliable and valid instrument, which is rooted in the adult education learning principles of the established literature, that is capable of identifying the degree to which practitioners support and adhere to the collaborative teaching-learning mode. This 44 item summated rating scale has potention uses in empirical studies and as a diagnostic tool for those with definitive philosophical views concerning the collaborative mode.

PALS can be used in empirical studies to assess the credibility of the theories professed in the literature. If the collaborative mode is as appropriate for helping most adults to learn as its proponents claim, then learners exposed to this mode should show significant learning gains. Empirical studies to test the effect of the collaborative mode on student achievement can be designed with PALS serving as the instrument for identifying the experimental and control groups. These studies could examine the relationship of the teaching-learning mode to such variables as learning orientations, cognitive styles, most appropriate range of directness/indirectness, and situational factors.

These situational factors could include subject matter, instructional objectives, learner goals, and educational settings such as programs for General Educational Development testing, English as a second language, adult basic education, or competency-based education. If positive relationships are found, PALS could then serve as the mechanism for the compatible matching of distinctive teaching styles with specific learning styles and situations.

PALS could have numerous diagnostic uses by those who have a firm philosophical commitment to the principles of the collaborative mode. It could serve as a tool for targeted staff development by uncovering cluster areas of concepts around which in-service training activities could be planned for either group sessions or individualized learning projects. PALS could also serve as an assessment tool for indicating to learning resource directors needed areas for collecting materials. For an administrator PALS could serve as a personal professional development assessment tool and as a tool for identifying areas of commonalities and differences concerning views on teaching methods between him/her and the staff. In addition, the learning principles in PALS could be compared to the literature from either child or adolescent education to factor out possible generic principles applicable to learning regardless of age.

Summary

PALS is a reliable and valid 44 item instrument which can be completed rapidly. Its reliability was established by means of test-retest. Construct validity was confirmed by a national jury of adult education professors. Content validity was established through field-testing in full-time public school programs. Criterion-related validity was confirmed by identifying the initiating and responsive actions in the items in PALS and then by comparing scores on PALS to scores on the Flanders Interaction Analysis Categories. In

addition, the variables of social desirability and congruency of item interpretation were examined.

PALS has potential empirical and field use. It might serve as the measurement device for segregating experimental and control groups in a wide variety of research studies related to learning efficiency in specific teaching-learning modes. Also, since the instrument consolidates many learning principles widely advocated in the literature, it might be used in several ways by practitioners.

References

Bergevin, P. A philosphy for adult education. New York: The Seabury Press, 1967.

Blaney, J. Program development and curricular authority. In J. Blaney, I. Housego & G. McInstosh, A monograph on program development in education. Victoria, British Columbia: Education-Extension Center for Continuing Education, The University of British Columbia, 1974.

Edwards, A. L. The social desirability variable in personality assessment and research. New York: The Dryden Press, 1957.

Farmer, J. A., Jr. Impact of "lifelong learning" on the professionalization of adult education. Journal of Research and Development in Education, 1974, 7, No. 4 (Summer), 56-67.

Flanders, N. A. Analyzing teaching behavior. Reading, Mass.: Addison-Wesley Publishing Company, 1970.

Freire, P. Pedagogy of the oppressed. New York: The Seabury Press, 1970.

Houle, C. O. The inquiring mind. Madison, Wis.: University of Wisconsin Press, 1963.

Houle, C. O. The design of education. San Francisco: Jossey-Bass Inc., 1972.

Jensen, G., Liveright, A. A., & Hallenbeck, W. Adult education: outlines of an emerging field of university study. Washington, D. C.: Adult Education Association of the U.S.A., 1964.

Kidd, J. R. How adults learn. New York: Association Press, 1976.

Knowles, M. S. The modern practice of adult education. New York: Association Press, 1970.

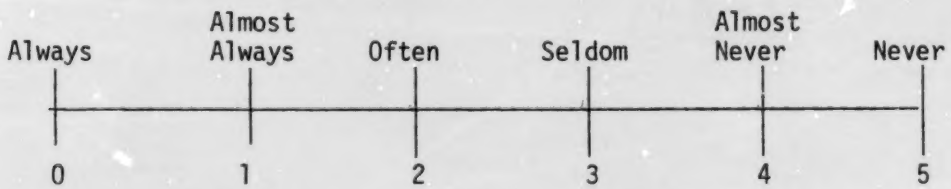
Knox, A. Helping adults to learn. In R. M. Smith (Ed.), Adult learning: issues and innovations. DeKalb, IL.: ERIC Clearinghouse in Career Education, 1976.

Lindeman, E. C. The meaning of adult education. Montreal: Harvest House, 1961. (Originally published, 1926.)

APPENDIX

Principles of Adult Learning Scale

Directions: The following survey contains several things that a teacher of adults might do in a classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you most frequently practice the action described in the item. Your choices are Always, Almost Always, Often, Seldom, Almost Never, and Never. On your answer sheet circle 0 if you always do the event; circle number 1 if you almost always do the event; circle number 2 if you often do the event; circle number 3 if you seldom do the event; circle number 4 if you almost never do the event; and circle number 5 if you never do the event. If the item does not apply to you, circle number 5 for never.



1. I allow students to participate in developing the criteria for evaluating their performance in class.
2. I use disciplinary action when it is needed.
3. I allow older students more time to complete assignments when they need it.
4. I encourage students to adopt accepted middle class values.
5. I help students diagnose the gaps between their goals and their present level of performance.
6. I provide knowledge rather than serve as a resource person.
7. I stick to the instructional objectives that I write at the beginning of a program.
8. I participate in the informal counseling of students.
9. I use lecturing as the best method for presenting my subject material to adult students.
10. I arrange the classroom so that it is easy for students to interact.
11. I determine the educational objectives for each of my students.
12. I plan units which differ as widely as possible from my students' socio-economic backgrounds.
13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.

14. I plan learning episodes to take into account my students' prior experiences.

15. I allow students to participate in making decisions about the topics that will be covered in class.

16. I use one basic teaching method because I have found that most adults have a similar style of learning.

17. I use different techniques depending on the students being taught.

18. I encourage dialogue among my students.

19. I use written tests to assess the degree of academic growth rather than to indicate new directions for learning.

20. I utilize the many competencies that most adult students already possess to achieve educational objectives.

21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes.

22. I accept errors as a natural part of the learning process.

23. I have individual conferences to help students identify their educational needs.

24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.

25. I help my students develop short-range as well as long-range objectives.

26. I maintain a well disciplined classroom to reduce interferences to learning.

27. I avoid class discussion of controversial subjects that involve value judgements.

28. I allow my students to take periodic breaks during class.

29. I use methods that foster quiet, productive deskwork.

30. I use tests as my chief method of evaluating students.

31. I plan activities that will encourage each student's growth from dependence on others to greater independence.

32. I gear my instructional objectives to match the individual abilities and needs of the students.

33. I avoid issues that relate to the student's concept of himself/herself.

34. I encourage my students to ask questions about the nature of their society.

35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.

36. I have my students identify their own problems that need to be solved.

37. I give all students in my class the same assignment on a given topic.

38. I use materials that were originally designed for students in elementary and secondary schools.

39. I organize adult learning episodes according to the problems that my students encounter in everyday life.

40. I measure a student's long term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.

41. I encourage competition among my students.

42. I use different materials with different students.

43. I help students relate new learning to their prior experiences.

44. I teach units about problems of everyday living.

Scoring

A modified Likert scale was used as a continuum for recording practitioner responses to the items in PALS. Those taking the instrument were asked to respond to the frequency with which they practice the action described in the item. Responses which were congruent with the collaborative teaching-learning mode were assigned a high value and those which were antithetical to this mode were assigned a low value. The scale was divided into equal increments between these two extremes to measure varying degrees of support for or opposition to the collaborative mode.

The following items are congruent with the collaborative mode: 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44. Therefore, responses to these items are scored as follows:

Response	Point Value
Always	5
Almost Always	4
Often	3
Seldom	2
Almost Never	1
Never	0

The following items are antithetical to the collaborative mode: 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41. Therefore, responses to these items are scored as follows:

Response	Point Value
Always	0
Almost Always	1
Often	2
Seldom	3
Almost Never	4
Never	5

PALS is a summated rating scale with items that are approximately equal in assessing the degree of practitioner support of the collaborative mode. The sum of an individual's responses to the items can provide a score to indicate the degree of a practitioner's support of the collaborative teaching-learning mode when the score is interpreted in relationship to the normative scores established by this study.

Normative Scores

Raw Score	T-Score	Percentile
190	70	98
179	65	93
168	60	84
157	55	69
146	50	50
135	45	31
124	40	16
113	35	7
120	30	2